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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
QUIETT, CARRAMAH J

ART UNIT	PAPER NUMBER
2622	

NOTIFICATION DATE	DELIVERY MODE
01/08/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOPatentCommunications@Morganfinnegan.com
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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>10/15/2008</u>.

2a)☒ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,3 and 5-8</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,3 and 5-8</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>04 February 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☒ All   b)☐ Some *   c)☐ None of:

         1.☒ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____.

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 11/21/2008 has been entered.

Response to Amendment

2.   The amendment(s), filed on 11/21/2008, have been entered and made of record. Claims

1, 3, and 5-8 are pending.

Response to Arguments

3.   Applicant's arguments with respect to claims 1, 3, and 5-8 have been considered but are

moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4.   The text of those sections of Title 35, U.S. Code not included in this action can be found

in a prior Office action.

5.   **Claims 1, 3, and 6-8** are rejected under 35 U.S.C. 102(b) as being anticipated by Kubota

et al. (JP 2000-199321 – from IDS 01/29/2008) in view of Sasai (US 6636629).

        For **claim 1**, Kubota discloses an image sensing apparatus (fig. 1) having an image

sensing device (32; pg. 14, [0026]), comprising:

driving unit (35-36) that drives the image sensing device by a plurality of driving

schemes (pgs. 15-16, [0027]-[0029]; pg. 23, [0045]);

pixel defect information storage unit (40a/b-42) that stores pixel defect information as

information about a pixel defect in the image sensing device in correspondence with each driving

scheme (pg. 16, [0028]-[0029]); and

correction unit (43-45) that corrects the pixel defect by referring to the pixel defect

information in said pixel defect information storage unit in accordance with the driving scheme

with which said driving unit drives the image sensing device (pg. 16, [0029]),

wherein said correction unit, based on first pixel defect information of a first driving

scheme from the plurality of driving schemes (pgs. 23-24, [0045]-[0046]), generates second

pixel defect information for a second driving scheme (pg. 24, [0047]), and stores the second

pixel defect information in said pixel defect information storage unit (pgs. 24-26, [0047]-[0049]),

and

wherein each pixel defect within the second pixel defect information corresponds to a

pixel defect within the first pixel defect information (pgs. 24-26, [0047]-[0049]), and

wherein said second driving scheme from the plurality of driving schemes drives to read

a second number of pixels of signal from the image sensing device, where the second number is

smaller than a first number of pixel of signal read from the image sensing device by the first

driving scheme (pgs. 24-26, [0047]-[0049]).

Kubota does not expressly teach wherein said correction unit corrects the pixel defect by

interpolating the defective pixel by using the pixel data of upper, lower, left and right pixels

having the same color.

In a similar field of endeavor, Sasai teaches wherein said correction unit corrects the

pixel defect by interpolating the defective pixel by using the pixel data of upper, lower, left and

right pixels having the same color (col. 4, lines 19-43; figs. 2A-2C). In light of the teaching of

Sasai, it would have been obvious to one of ordinary skill in the art at the time the invention was

made to modify the correction unit of Kubota with the correction unit as recited in claim 1 in

order to avoid a blurred image from interpolation thereby improving image quality (Sasai, col. 2,

lines 28-42).

For **claim 3**, Kubota, as modified by Sasai, discloses the apparatus according to claim 1.

However, in Kubota the detailed configuration on pages 23-26 does not expressly disclose

wherein the first driving scheme is a driving scheme from the plurality of driving schemes that

reads all pixels of the image sensing device.

In another detailed configuration on pages 21-23, Kubota discloses wherein the first

driving scheme is a driving scheme from the plurality of driving schemes that reads all pixels of

the image sensing device ([0040]-[0044]). Please note that both configurations are in the same

embodiment where the reading modes are activated by a non-illustrated switch ([0040] and

[0045]). In light of the teaching of Kidono, it would have been obvious to one of ordinary skill

in the art at the time the invention was made to modify the first driving scheme of Kubota with a

driving scheme that reads all pixel of the image sensing device in order to obtain an improved

high general-purpose defect pixel detecting apparatus (Kubota, pg. 10, [0009]).

For **claim 6**, Kubota teaches an image sensing method using an image sensing apparatus

having an image sensing device (pg. 14, [0026]) and driving unit that drives the image sensing

device by a plurality of driving schemes (pgs. 15-16, [0027]-[0029]; pg. 23, [0045]), comprising:

generating pixel defect information in accordance with the driving scheme with which the

driving unit drives the image sensing device, such that each pixel defect within the pixel defect

information of a driving scheme corresponds to a pixel defect within each pixel defect

information of the remainder of the plurality of driving schemes (pgs. 23-26, [0045]-[0049]),

correcting a pixel defect by referring to pixel defect information in pixel defect

information storage unit in accordance with the driving scheme with which the driving unit

drives the image sensing device (pgs. 15-16, [0027]-[0029]; pgs. 24-26, [0047]-[0049]), the pixel

defect information storage unit storing the pixel defect information as information about the

pixel defect in the image sensing device in correspondence with each driving scheme (pgs. 15-

16, [0027]-[0029]).

Kubota does not expressly teach by interpolating the defective pixel by using the pixel

data of upper, lower, left and right pixels having the same color.

In a similar field of endeavor, Sasai teaches by interpolating the defective pixel by using

the pixel data of upper, lower, left and right pixels having the same color (col. 4, lines 19-43;

figs. 2A-2C). In light of the teaching of Sasai, it would have been obvious to one of ordinary

skill in the art at the time the invention was made to modify the method of Kubota with the

method as recited in claim 6 in order to avoid a blurred image from interpolation thereby

improving image quality (Sasai, col. 2, lines 28-42).

For **claim 7**, Kubota discloses a computer-readable recording medium which records a

computer program for an image sensing apparatus (fig. 1) having an image sensing device (32;

pg. 14, [0026]) and driving unit (35-36) that drives the image sensing device by a plurality of

driving schemes (pgs. 15-16, [0027]-[0029]; pg. 23, [0045]), characterized by

generating pixel defect information in accordance with the driving scheme with which the

driving unit drives the image sensing device, such that each pixel defect within the pixel defect

information of a driving scheme corresponds to a pixel defect within each pixel defect

information of the remainder of the plurality of driving schemes (pgs. 23-26, [0045]-[0049]),

causing a computer (40a/b-45) in the image sensing apparatus to execute processing for

correcting a pixel defect by referring to pixel defect information in pixel defect information

storage unit in accordance with the driving scheme with which the driving unit drives the image

sensing device (pgs. 15-16, [0027]-[0029]; pg. 23, [0045]), the pixel defect information storage

unit (40a/b-42) storing the pixel defect information as information about the pixel defect in the

image sensing device in correspondence with each driving scheme (pgs. 15-16, [0027]-[0029]).

Kubota does not expressly teach interpolating the defective pixel by using the pixel data

of upper, lower, left and right pixels having the same color.

In a similar field of endeavor, Sasai teaches interpolating the defective pixel by using the

pixel data of upper, lower, left and right pixels having the same color (col. 4, lines 19-43; figs.

2A-2C). In light of the teaching of Sasai, it would have been obvious to one of ordinary skill in

the art at the time the invention was made to modify the correction unit of Kubota with the

correction unit as recited in claim 7 in order to avoid a blurred image from interpolation thereby

improving image quality (Sasai, col. 2, lines 28-42).

Claim 8 is a "computer-readable recording medium encoded with a computer program

for an image sensing apparatus" claim corresponding to claim 7, which is a "computer-readable

recording medium which records a program for an image sensing apparatus" claim. Therefore,

claim 8 is analyzed and rejected as previously discussed with respect to claim 7.

6.   **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota et al. (JP

2000-199321 – from IDS 01/29/2008) in view of Sasai (US 6636629) as applied to claim 1

above, and further in view of Kidono et al. (U.S. Pat. #6,970,193).

For **claim 5**, Kubota, as modified by Sasai, discloses the apparatus according to claim 1.

However, Kubota does not expressly teach wherein said pixel defect information storage unit is a

nonvolatile recording medium.

In a similar field of endeavor, Kidono teaches an imaging apparatus wherein said pixel

defect information storage unit is a nonvolatile recording medium (EEPROM; col. 5, lines 25-

37). In light of the teaching of Kidono, it would have been obvious to one of ordinary skill in the

art at the time the invention was made to modify the storage unit of Kubota with the storage unit

as recited in claim 5 so that the address of the stored defective (fault) pixels are easily looked up

(Kidono col. 6, lines 13-15) thereby helping to reduce the occurrence of additional fixed pattern

noise in an image (Kidono col. 2, lines 26-27).

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Carramah J. Quiett whose telephone number is (571)272-7316.

The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, NgocYen Vu can be reached on (571) 272-7320. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. J. Q./
Examiner, Art Unit 2622
January 2, 2009